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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/590,897	06/09/2000	Kouichi Takahashi	16869P010700US	1657

7590

03/25/2003

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EXAMINER

MITCHELL, JAMES M

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/590,897

Applicant(s)

TAKAHASHI ET AL.

Examiner

James Mitchell

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kohara et al. (U.S 4,654,966).

Kohara (Fig 1; Column 1, Lines 20-51) discloses a sealing structure for multi-chip modules comprising an inherent wiring board (7) having one face mounted with a plurality of semiconductor devices (6) and another face having connecting pins (8) arranged thereover, a flange that gives structure strength and therefore is a frame (2) inherently having a thermal expansion rate compatible with that of the wiring board (frame bonded to board), an air-cooled heat sink cap (1) covering the plurality of semiconductor devices, the cap having a thermal expansion rate different from that of the frame, a heat conducting material (5) provided between a plurality of the semiconductor devices and the cap for transmitting heat generated by the plurality of semiconductor devices to the cap, an inherent attachment for fixing the frame and the wiring board to each other (Column 1, Lines 36-37) and an O- ring intervening member (4) disposed between the frame and the cap for joining the frame and the cap to each other.

With respect to claim 5, although Kohara does not appear to explicitly teach the process limitations of the intervening member being "slidably disposed between the frame and the cap," the product of Kohara inherently possesses the structural

characteristics imparted by the process limitation. See *In re Fitzgerald, Sanders, and Bagheri*, 205 USPQ 594 (CCPA 1980).

Claims 1-5, 7-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al. (U.S. 5,844,311).

Watanabe (Fig 1A) discloses a sealing structure for multi-chip modules comprising a ceramic wiring board (11; Column 4, Lines 49-50) having one face mounted with a plurality of semiconductor devices (12) and another face having connecting pins (13) arranged thereover, a Ferronickel alloy first frame (15; Column 3, Line 52) having a thermal expansion rate compatible with that of the wiring board, the first frame provided on a periphery of the face of the wiring board mounted with the semiconductor devices, a second frame (not labeled) disposed on the first frame, a copper cap (17; Column 3, Lines 52-53) having a circumference and having a thermal expansion coefficient different from that of the first and second frames and covering the plurality of semiconductor devices, and comprising an air cooled heat sink (Claim 6), a heat conducting material (16a) disposed between the cap and said plurality of the semiconductor devices for transmitting heat generated by the semiconductor devices to the cap, an attachment to fix the first frame and wiring board to each other (13) and a fastener (10) for fastening the first and second frames and the cap together via an elastic, O- ring intervening member (19) with packing (Claim 3); whereby the cap is fastened between the first and second frame; and said elastic O-ring member is provided between a side face of the cap and a face of the first frame and covers the circumference of the cap.

With respect to claim 5, although Watanabe does not appear to explicitly teach the process limitations of the intervening member being "slidably disposed between the frame and the cap," the product of Watanabe inherently possesses the structural characteristics imparted by the process limitation. See *In re Fitzgerald, Sanders, and Bagheri*, 205 USPQ 594 (CCPA 1980).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe as applied to claim 5 and further in combination with Switky (U.S 5,270,262).

Watanabe does not appear to explicitly disclose that the O-ring is plastic, however Switky utilizes a plastic O-ring (Column 3, Lines 39-40).

It would have been obvious to one of ordinary skill in the art to form the O-ring of Watanabe of plastic in order to form an O-ring.

Response to Arguments

Applicant's arguments filed January 9, 2003 have been fully considered but they are not persuasive. Applicant contends that neither Kohara nor Watanabe show an intervening member between the frame and cap such that the frame and cap are spaced apart. Examiner respectfully disagrees. Both references show a space between the frame and cap at the place where the ring is; therefore, the prior art is within the scope of the broad claim language of a frame and cap spaced apart.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mitchell whose telephone number is (703) 305-0244. The examiner can normally be reached on M-F 10:30-8:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3230 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


jmm
March 24, 2003


KAMAND CUNEO
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TECHNOLOGY CENTER 2800